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EXAMINER BATISTA, MARCOS				
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/578,932

**Applicant(s)**

DU ET AL.

**Examiner**

MARCOS BATISTA

**Art Unit**

2617

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 05 November 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/C)
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date: \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_
- Paper No(s)/Mail Date: \_\_\_\_\_

### DETAILED ACTION

1. This Action is in response to Applicant's amendment filed on 11/05/2009. Claims 1-20 are still pending in the present application. This Action is made **FINAL**.

#### *Response to Arguments*

2. Applicant's arguments filed on 11/05/2009 have been fully considered but they are not persuasive.

After carefully revising the office action pertinent to the present response and remarks, the following main point(s) have been identified:

**1)** The Applicant states that "there is no disclosure or suggestion by Jones et al. with respect to all of the described handing off methods of "the mobility supporting module may switch between the WWAN and WLAN by providing updated WWAN and WLAN address information via one or more encapsulating techniques," as recited by Applicant's Claim 1," (refer to page 12 lines 19-22 of the Applicant's remarks).

Regarding point **1)**, Jones et al. discloses a method and system for communication session handoff between a mobile station via a **public wireless network** to the mobile station via a wireless local area network (**WLAN**), after the mobile station registers with the WLAN. The public wireless network is preferably a CDMA network, such as the Sprint PCS network, but may be any public wireless network covering a wide ranging, geographic area that any interested party of the general public may subscribe. Such other networks typically include AMPS, TDMA or GSM networks. The WLAN, on the other hand, is more limited in geographic coverage

area and typically, but not necessarily, limits subscription to a select number of subscribers. Preferably, the private WLAN conforms to the IEEE 802.11 protocol; however, the WLAN may conform to other protocols. In addition, at the cited portions, added below for clarity, Jones discloses handing off (e.g., switching) an active session from a public wireless network (WWAN) to a private wireless network (WLAN). The handing off of active session clearly suggests that the mobile device has already registered and that the latest routing information (e.g., address), is known in the network. The handing off is performed by the gateway (e.g., mobility supporting module), which encapsulation and unencapsulation function for communications that pass through it.

Jones, column 26 lines 5-16:

"(125) Located between the tenth and eleventh segment of the fourth and fifth communication path is gateway 620. The gateway 620 may provides a protocol **encapsulation/unencapsulation** function for communications that pass through it. The gateway 620 may also provide an encoding function to encode and decode data of a communication. For facilitating a hand-off of a communication session engaged in by the mobile station 116 via the public wireless network 412 to the mobile station 116 in the private wireless network 418, the gateway 620 may include switching functionality for routing a communications to the mobile station 116, in addition to the encapsulation/unencapsulation and the encoding functions."

Jones, column 35 lines 29-65:

"(187) **During the ongoing communication session in the WLAN**, at block 922, the mobile station 116 registers with the public wireless network 812. After registering, to

initiate the hand-off of the ongoing communication, **the public wireless network 812 may signal the gateway 820 with instructions to route incoming EVRC data**, incoming PCM data, or other similarly encoded data of the ongoing communication session to the mobile station 116 via the MSC 636, as shown in block 924.

(188) Signaling the gateway 820 may include the MSC 636 exchanging messages with the gateway 820 using a signaling system, such as IS-41 and/or IS-771. Through a series of these signaling communications, the MSC 636 requests that the gateway 820 switch or otherwise route the incoming EVRC data, incoming PCM data, or other similarly encoded data of the ongoing communication session to it.

(189) iii. Handing-Off

(190) At block 926, when receiving incoming data as incoming 802.11-framed-EVRC-data, the gateway 820 first unencapsulates or strips the headers (and/or frames) of the 802.11 protocol incoming 802.11-framed-EVRC-data to uncover incoming EVRC data. Unencapsulation may include a process of reassembling portions of the incoming EVRC data that were separated when framed in the 802.11 protocol. The gateway 820 then translates the incoming EVRC data into incoming PCM data, as also shown in block 926. If the gateway 820 receives incoming data in any other format, the gateway may encode/decode and unencapsulate, as needed, to create incoming PCM data. **While the preferred format is incoming PCM data, such format may take other forms as dictated by the intrasystem and/or intersystem protocols used by the private and public wireless networks.**

(191) At block 928, following the MSC's 636 request to receive the incoming EVRC data from the gateway 820, the incoming EVRC data or other similarly encoded data of the ongoing communication session that would otherwise be routed to the WLAN server 432 is routed to the MSC 636."

Therefore, the argued features are written such that they read upon the cited reference(s).

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1, 7-9, 12, 17, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sundar et al. (US 20030134650 A1), hereafter "Sundar," in view of Benchetrit et al. (US 20030065817 A1), hereafter "Benchetritet," further in view of Jones et al. (US 7010300 B1), hereafter "Jones."

Consider claim 1, Sundar discloses a communication method performed by a WWAN network system for a mobile terminal with a WWAN address in the WWAN to bilaterally switch communication between the WWAN and a WLAN via a mobility supporting module suitable to use with a mobility control module, the method comprising (**see fig. 5, par. 0065**): receiving a registration report sent by the mobile terminal when the mobile terminal enters the WLAN, wherein the registration report at least contains a WLAN address that the mobile terminal acquires when entering the WLAN (**see fig. 15, par. 0077 – the SIP message, which are exchanged between the different networks, contains IP addresses related information**).

Sundar discloses claim 1 above, but does not particular refer to establishing mapping relationship between the WWAN address and the WLAN address of the mobile terminal.

Benchetritet, in analogous art, teaches establishing mapping relationship between the WWAN address and the WLAN address of the mobile terminal (**see figs. 5 and 7, pars. 0021 lines 1-7, 0076 lines 17-20**).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the invention of Sundar and have it include establishing mapping relationship between the WWAN address and the WLAN address of the mobile terminal, as taught by Benchetritet. The motivation would have been for establishing a plurality of network links between a private network and a public network (**see par. 0023**).

Sundar as modified by Benchetritet discloses claim 1 above, but does not particular refer to wherein the mobility supporting module may switch between the WWAN and WLAN by providing updated WWAN and WLAN address information via one or more encapsulating techniques.

Jones, in analogous art, teaches wherein the mobility supporting module may switch between the WWAN and WLAN by providing updated WWAN and WLAN address information via one or more encapsulating techniques (**see fig. 4, col. 26 lines 5-16, col. 35 lines 29-65 and col. 36 lines 12-34** – Jones teaches encapsulating the protocol data from performing a handoff between a public network (i. e., WWAN) and a Private network (i. e., WLAN)).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the invention of Sundar as modified by Benchetritet and have it include wherein the mobility supporting module may switch between the WWAN and WLAN by providing updated WWAN and WLAN address information via one or more encapsulating techniques, as taught by Jones. The motivation would have been to transparently handover a current session between the WLAN and the WWAN independently of the protocol being used (**see fig. 4, col. 4 lines 28-42**).

Consider claim 7, Sundar discloses a communication method performed by a mobile terminal with a WWAN address, for the mobile terminal to bilaterally switch communication between the WWAN and a WLAN via a mobility supporting module suitable to use with a mobility control module, the method comprising acquiring a WLAN



address when entering the WLAN (**see fig. 15, par. 0077**); sending a registration report to the WWAN network system, wherein the registration report at least contains the WLAN address (**see fig. 15, par. 0077**).

Sundar, however, does not particular refer to wherein the WWAN network system establishes a mapping relationship between the WWAN address and the WLAN address of the mobile terminal according to the registration report.

Benchetritet, in analogous art, teaches establishes a mapping relationship between the WWAN address and the WLAN address of the mobile terminal (**see figs. 5 and 7, pars. 0021 lines 1-7, 0076 lines 17-20**).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the invention of Sundar and have it include establishing mapping relationship between the WWAN address and the WLAN address of the mobile terminal, as taught by Benchetritet. The motivation would have been for establishing a plurality of network links between a private network and a public network (see par. 0023).

Sundar as modified by Benchetritet discloses claim 1 above, but does not particular refer wherein the mobility supporting module may switch between the WWAN and WLAN by providing updated WWAN and WLAN address information via one or more encapsulating techniques.

Jones, in analogous art, teaches wherein the mobility supporting module may switch between the WWAN and WLAN by providing updated WWAN and WLAN address information via one or more encapsulating techniques (**see fig. 4, col. 26 lines**

**5-16, col. 35 lines 29-65 and col. 36 lines 12-34** – Jones teaches encapsulating the protocol data from performing a handoff between a public network (i. e., WWAN) and a Private network (i. e., WLAN)).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the invention of Sundar as modified by Benchetritet and have it include wherein the mobility supporting module may switch between the WWAN and WLAN by providing updated WWAN and WLAN address information via one or more encapsulating techniques, as taught by Jones. The motivation would have been to transparently handover a current session between the WLAN and the WWAN independently of the protocol being used (**see fig. 4, col. 4 lines 28-42**).

Consider claim 8, Sundar as modified by Benchetritet and Jones discloses claim 7 above. Sunday also discloses sending a report for canceling registration to said WWAN network system so as to notify said WWAN network system that said WLAN address of the mobile terminal is invalid when the mobile terminal leaves said WLAN (see fig. 9, par. 0071 lines 1-11).

Consider claim 9, Sundar as modified by Benchetritet and Jones discloses claim 8 above. Sundar also discloses wherein said registration report and said report for canceling registration can be transferred to said network system via one of WWAN link and WLAN link (see fig. 9, par. 0071 lines 1-11).

Consider claim 12, this is an apparatus claim corresponding to method claim 1. Therefore, it has been analyzed and rejected based upon the method claim 1 above.

Consider claim 17, this is an apparatus claim corresponding to method claim 1. Therefore, it has been analyzed and rejected based upon the method claim 1 above.

Consider claim 18, Sundar as modified by Benchetritet and Jones teaches claim 17 above. Sundar also teaches wherein: said sending unit sends a report for canceling registration to said WWAN network system to notify said WWAN network system that said WLAN address of the mobile terminal is invalid when the mobile terminal leaves said WLAN (see fig. 9, par. 0071 lines 1-11).

5. Claims 2-6, 10, 11, 13-16, 19, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sundar et al. (US 20030134650 A1), hereafter "Sundar," in view of Benchetritet al. (US 20030065817 A1), hereafter "Benchetritet," in view of Jones et al. (US 7010300 B1), hereafter "Jones," further in view of Chiueh et al. (US 20050053034 A1), hereafter "Chiueh."

Consider claim 2, Sundar as modified by Benchetritet and Jones teaches claim 1 above. Sundar also teaches receiving the data information to be sent to said mobile terminal from a source address (see par. 0093 lines 12-20); sending the data information containing said WLAN address to said mobile terminal via said WLAN (see

fig. 22, par. 0083).

Sundar as modified by Benchetritet and Jones, does not particular refer to encapsulating said WLAN address into the data information to be sent to said mobile terminal, according to the mapping relationship between said WWAN address and said WLAN address.

Chiueh, in analogous art, teaches encapsulating said WLAN address into the data information to be sent to said mobile terminal, according to the mapping relationship between said WWAN address and said WLAN address (see par. 0056 lines 10-23).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the invention of Sundar as modified by Benchetritet and Jones and have it include encapsulating said WLAN address into the data information to be sent to said mobile terminal, according to the mapping relationship between said WWAN address and said WLAN address, as taught by Chiueh. The motivation would have been in order to. The motivation would have been in order to provide seamless routing capability when moving across different networks (see par. 0056).

Consider claim 3, Sundar as modified by Benchetritet and Jones teaches claim 1 above. Sundar also teaches receiving the data information containing said WLAN address sent by said mobile terminal to a destination address via said WLAN (see par. 0078).

Sundar as modified by Benchetritet and Jones, does not particular refer to

unpacking the data information containing said WLAN address and sending the unpacked data information to the destination address.

Chiueh, in analogous art, teaches unpacking the data information containing said WLAN address and sending the unpacked data information to the destination address (see par. 0065). The motivation would have been in order to provide seamless routing capability when moving across different networks (see par. 0065).

Consider claim 4, Sundar as modified by Benchetritet, Jones and Chiueh teaches claim 3 above. Sundar also teaches receiving a report for canceling registration sent by said mobile terminal when the mobile terminal leaves said WLAN (see fig. 9, par. 0071 lines 1-11); deleting the mapping relationship between said WWAN address and said WLAN address of said mobile terminal in the network system according to said report for canceling registration (see fig. 9, par. 0071 lines 14-21 – clean-up and de-registration refer to deleting the configuration related to the previous connection).

Consider claim 5, Sundar as modified by Benchetritet, Jones and Chiueh teaches claim 3 above. Chiueh also teaches receiving a registration report sent by said mobile terminal when said mobile terminal enters another WLAN, wherein the registration report at least contains another WLAN address said mobile terminal acquires when said mobile terminal enters the another WLAN (see par. 0056 lines 1-8); updating the mapping relationship between said WWAN address and said WLAN address of said mobile terminal to the mapping relationship between said WWAN

address and the another WLAN address according to said registration report (see par. 0080 lines 20-27). The motivation would have been in order to provide seamless routing capability when moving across different networks (see pars. 0056 and 0080).

Consider claim 6, Sundar as modified by Benchetritet, Jones and Chiueh teaches claim 4 above. Sundar also teaches wherein said registration report and said report for canceling registration can be transferred to the network system via either WWAN link or a WLAN link (see fig. 9, par. 0071 lines 1-11).

Consider claim 10, Sundar as modified by Benchetritet and Jones discloses claim 9 above. Sundar as modified by Benchetritet does not particular refer to receiving the data information containing said WLAN address transferred via said WWAN network system from a source address, wherein said WLAN address is encapsulated in the data information by said WWAN network system; unpacking the received data information so as to get the data information from the source address.

Chiueh, in analogous art, teaches receiving the data information containing said WLAN address transferred via said WWAN network system from a source address, wherein said WLAN address is encapsulated in the data information by said WWAN network system (see par. 0056 lines 10-23); unpacking the received data information so as to get the data information from the source address (see par. 0065). The motivation would have been in order to provide seamless routing capability when moving across different networks (see pars. 0056 and 0065).

Consider claim 11, Sundar as modified by Benchetritet, Jones and Chiueh teaches claim 10 above. Chiueh also teaches encapsulating said WLAN address into the data information to be sent to a destination address (see par. 0056 lines 10-23); sending the data information containing said WLAN address to said WWAN network system, so as to send the data information unpacked by said WWAN network system to the destination address (see par. 0065). The motivation would have been in order to provide seamless routing capability when moving across different networks (see pars. 0056 and 0065).

Consider claims 13-16, these are system claims corresponding to method claims 2-5. Therefore, they have been analyzed and rejected based upon the method claims 2-5 respectively.

Consider claim 19, Sundar as modified by Benchetritet and Jones teaches claim 18 above. Sundar as modified by Benchetritet and Jones does not particular refer to wherein: said receiving unit receives the data information containing said WLAN address transferred via said WWAN network system from a source address, wherein said WLAN address is encapsulated in the data information by said WWAN network system; an unpacking unit unpacks the received data information to get the data information from the source address.

Chiueh, in analogous art, teaches wherein: said receiving unit receives the data information containing said WLAN address transferred via said WWAN network system

from a source address, wherein said WLAN address is encapsulated in the data information by said WWAN network system (see par. 0056 lines 10-23); a unpacking unit unpacks the received data information to get the data information from the source address (see par. 0065). The motivation would have been in order to provide seamless routing capability when moving across different networks (see pars. 0056 and 0065).

Consider claim 20, Sundar as modified by Benchetritet, Jones and Chiueh teaches claim 19 above. Chiueh also teaches an encapsulating unit, for encapsulating said WLAN address into the data information to be sent to a destination address (see par. 0056 lines 10-23); said sending unit sends the data information containing said WLAN address to said WWAN network system, so as to send the data information unpacked by said WWAN network system to the destination address (see par. 0065). The motivation would have been in order to provide seamless routing capability when moving across different networks (see pars. 0056 and 0065).

### ***Conclusion***

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any



extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Marcos Batista, whose telephone number is (571) 270-5209. The Examiner can normally be reached on Monday-Thursday from 8:00am to 5:00pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Rafael Pérez-Gutiérrez can be reached at (571) 272-7915. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or 703-305-3028.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist/customer service whose telephone number is (571) 272-2600.

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Examiner

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